



Petrotechnical Open Software Corporation

POSC/CAESAR Project

Oil & Gas Facilities Data Model Snapshot C/D

Normal Involvement Report

Normal involvement report

13-Jan-97

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Activity Class	Involvement Class	Class Object
AUTHORISE	AUTHORISEABLE	ACTIVITY CLASS
AUTHORISE	AUTHORISEABLE	CHARACTERISTIC CLASS
AUTHORISE	AUTHORISEABLE	FACILITY CLASS
AUTHORISE	AUTHORISEABLE	INFORMATION CONTENT CLASS
AUTHORISE	AUTHORISEABLE	MATERIAL CLASS
AUTHORISE	AUTHORISEABLE	ORGANISATION CLASS
AUTHORISE	AUTHORISEABLE	PERSON CLASS
AUTHORISE	AUTHORITY	ORGANISATION CLASS
AUTHORISE	AUTHORITY	PERSON CLASS
AUTHORISE	PURPOSE	ACTIVITY CLASS
CONTROL AND APPROVE	BASIS	CHANGE REQUEST
ACTIVITIES		
CONTROL AND APPROVE	BASIS	OWNER REQUIREMENTS
ACTIVITIES		
CONTROL AND APPROVE	BASIS	SITE INFORMATION
ACTIVITIES		
CONTROL AND APPROVE	BASIS	STATUS
ACTIVITIES		
CONTROL AND APPROVE	CONTROLLER	BUSINESS DIRECTIVES
ACTIVITIES		
CONTROL AND APPROVE	CONTROLLER	CODES
ACTIVITIES		
CONTROL AND APPROVE	CONTROLLER	CORPORATE STANDARDS
ACTIVITIES	COMPOUND	DEGLE AMODAL DEGLEDER CENTER
CONTROL AND APPROVE	CONTROLLER	REGULATORY REQUIREMENTS
ACTIVITIES	PD O DATOM	A LITTLE DATA THOU DE A N
CONTROL AND APPROVE	PRODUCT	AUTHORIZATION PLAN
ACTIVITIES	PD O DATOM	DROJECT AUTHORIZATIONS (CONTROLS
CONTROL AND APPROVE	PRODUCT	PROJECT AUTHORIZATIONS/CONTROLS
ACTIVITIES		

A		
Activity Class	Involvement Class	Class Object
CONTROL AND APPROVE	PRODUCT	SCHEDULES
ACTIVITIES	G017777 01 1 777	D ODED
DECOMMISSION & DEMOLISH OF	CONTROLLER	PLANT OPERATION/MAINTENANCE
PLANT	PD O DATOM	DOCUMENTATION
DECOMMISSION & DEMOLISH OF	PRODUCT	RESTORED SITE
PLANT DEFINE COMMISSIONING	BASIS	PROCESS CONTROL LOGIC
DEFINE COMMISSIONING	BASIS	PROCESS CONTROL LOGIC
PHILOSOPHY DEFINE COMMISSIONING	DACIC	DDOCECC ELOW DIA CDAM (DED)
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE COMMISSIONING	BASIS	PROCESS STREAM DATA
PHILOSOPHY	DASIS	PROCESS STREAM DATA
DEFINE COMMISSIONING	BASIS	SITE INFORMATION
PHILOSOPHY	BASIS	SHEINFORMATION
DEFINE COMMISSIONING	CONTROLLER	COST AND TIME ESTIMATES
PHILOSOPHY	CONTROLLER	COST AND TIME ESTIMATES
DEFINE COMMISSIONING	CONTROLLER	EQUIPMENT SPECIFICATION
PHILOSOPHY	CONTROLLER	EQUI WENT SI ECH ICATION
DEFINE COMMISSIONING	CONTROLLER	WEIGHT AND VOLUME ESTIMATES
PHILOSOPHY	CONTROLLEN	WEIGHT IN STORES ESTEWNINES
DEFINE COMMISSIONING	PRODUCT	COMMISSIONING PHILOSOPHY
PHILOSOPHY		
DEFINE COMMISSIONING	PRODUCT	RULES AND SEQUENCES
PHILOSOPHY		
DEFINE CONTAINMENT	BASIS	REGULATORY REQUIREMENTS
PHILOSOPHY		_
DEFINE CONTAINMENT	CONTROLLER	DESIGN SAFETY PHILOSOPHY
PHILOSOPHY		
DEFINE CONTAINMENT	PRODUCT	CONTAINMENT PHILOSOPHY
PHILOSOPHY		
DEFINE CONTROL PHILOSOPHY	BASIS	OWNER REQUIREMENTS
DEFINE CONTROL PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE CONTROL PHILOSOPHY	CONTROLLER	CODES

Activity Class	Involvement Class	Class Object
DEFINE CONTROL PHILOSOPHY	CONTROLLER	DESIGN BASIS
DEFINE CONTROL PHILOSOPHY	CONTROLLER	HEAT/MASS BALANCE
DEFINE CONTROL PHILOSOPHY	CONTROLLER	UNIT OPERATIONS
DEFINE CONTROL PHILOSOPHY	PRODUCT	PROCESS CONTROL LOGIC
DEFINE END REQUIREMENTS	BASIS	OWNER REQUIREMENTS
DEFINE END REQUIREMENTS	BASIS	SITE INFORMATION
DEFINE END REQUIREMENTS	CONTROLLER	CODES
DEFINE END REQUIREMENTS	CONTROLLER	DESIGN BASIS
DEFINE END REQUIREMENTS	PRODUCT	END REQUIREMENTS
DEFINE ENGINEERING DESIGN	BASIS	TIME/COST ESTIMATES
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	AVAILABILITY REQUIREMENTS
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	CODES
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	CORPORATE STANDARDS
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	DESIGN BASIS
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	ENGINEERING PHILOSOPHY
STRATEGY		
DEFINE ENGINEERING DESIGN	CONTROLLER	STANDARD
STRATEGY		
DEFINE ENGINEERING DESIGN	PRODUCT	TECHNICAL RISK ASSESSMENT
STRATEGY		
DEFINE ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
STRATEGY		
DEFINE OVERALL REQUIREMENT	BASIS	OWNER REQUIREMENTS
DEFINE OVERALL REQUIREMENT	BASIS	SITE INFORMATION
DEFINE OVERALL REQUIREMENT	CONTROLLER	DESIGN BASIS
DEFINE PROCEDURES, STANDARDS	BASIS	CHANGE REQUEST
AND GUIDELIN		
DEFINE PROCEDURES, STANDARDS	BASIS	OWNER REQUIREMENTS

Activity Class	Involvement Class	Class Object
AND GUIDELIN DEFINE PROCEDURES, STANDARDS	CONTROLLER	AUTHORIZATION PLAN
AND GUIDELIN	CONTROLLER	AUTHORIZATION FLAN
DEFINE PROCEDURES, STANDARDS	CONTROLLER	REGULATORY REQUIREMENTS
AND GUIDELIN		•
DEFINE PROCEDURES, STANDARDS	PRODUCT	PROJECT SPECIFIC
AND GUIDELIN		PROCEDURES/STANDARDS/GUIDELINES
DEFINE SAFETY PHILOSOPHIES	BASIS	CONCEPTUAL SAFETY ENGINEERING
		DESIGN DESIGN STRA
DEFINE SAFETY PHILOSOPHIES	CONTROLLER	ENGINEERING DESIGN STRATEGY
DEFINE SAFETY PHILOSOPHIES	PRODUCT	DESIGN SAFETY PHILOSOPHY
DEFINE UNIT OPERATIONS	BASIS	OWNER REQUIREMENTS
DEFINE UNIT OPERATIONS	BASIS	PROCESS CONTROL LOGIC
DEFINE UNIT OPERATIONS	BASIS	SITE INFORMATION
DEFINE UNIT OPERATIONS	BASIS	STREAM DATA
DEFINE UNIT OPERATIONS	CONTROLLER	CODES
DEFINE UNIT OPERATIONS	CONTROLLER	DESIGN BASIS
DEFINE UNIT OPERATIONS	PRODUCT	TIME/COST ESTIMATES
DEFINE UNIT OPERATIONS	PRODUCT	UNIT OPERATIONS
DESCRIBE AN ITEM	DESCRIBED	ACTIVITY CLASS
DESCRIBE AN ITEM	DESCRIBED	CHARACTERISTIC CLASS
DESCRIBE AN ITEM	DESCRIBED	FACILITY CLASS
DESCRIBE AN ITEM	DESCRIBED	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	DESCRIBED	MATERIAL CLASS
DESCRIBE AN ITEM	DESCRIBED	ORGANISATION CLASS
DESCRIBE AN ITEM	DESCRIBED	PERSON CLASS
DESCRIBE AN ITEM	DESCRIPTOR	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	PERFORMER	FACILITY CLASS
DESIGN A PROCESS	BASIS	SITE INFORMATION
DESIGN A PROCESS	CONTROLLER	END REQUIREMENTS
DESIGN A PROCESS	CONTROLLER	SAFETY HAZOPS ANALYSIS
DESIGN A PROCESS	CONTROLLER	START CONDITIONS
DESIGN A PROCESS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)

Activity Class	Involvement Class	Class Object
DESIGN PLANT	BASIS	ENGINEERING DESIGN, CONSTRUCTION,
D D D T T D T T T	2.1010	AND OPERATION
DESIGN PLANT	BASIS	OWNER REQUIREMENTS
DESIGN PLANT	BASIS	SITE INFORMATION
DESIGN PLANT	BASIS	TIME/COST ESTIMATES
DESIGN PLANT	CONTROLLER	CORPORATE STANDARDS
DESIGN PLANT	CONTROLLER	DESIGN BASIS
DESIGN PLANT	CONTROLLER	PROJECT AUTHORIZATIONS/CONTROLS
DESIGN PLANT	CONTROLLER	PROJECT FINANCIAL PLAN
DESIGN PLANT	CONTROLLER	PROJECT SPECIFIC
		PROCEDURES/STANDARDS/GUIDELINES
DESIGN PLANT	CONTROLLER	REGULATORY REQUIREMENTS
DESIGN PLANT	CONTROLLER	SCHEDULES
DESIGN PLANT	PRODUCT	ENVIRONMENTAL IMPACT ASSESSMENT
DESIGN PLANT	PRODUCT	EQUIPMENT LIST
DESIGN PLANT	PRODUCT	LINE SCHEDULE/LIST
DESIGN PLANT	PRODUCT	OPERATION DATA AND DIRECTIVES
DESIGN PLANT	PRODUCT	P AND I DIAGRAM
DESIGN PLANT	PRODUCT	PROCESS CONTROL LOGIC
DESIGN PLANT	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
DESIGN PLANT	PRODUCT	PROJECT SPECIFIC
		PROCEDURES/STANDARDS/GUIDELINES
DESIGN PLANT	PRODUCT	REGULATORY AUTHORIZATIONS
DESIGN PLANT	PRODUCT	SAFETY HAZOPS ANALYSIS
DESIGN PLANT	PRODUCT	SCHEMATIC DIAGRAMS
DESIGN PLANT	PRODUCT	STATUS
DESIGN PLANT	PRODUCT	STREAM DATA
DESIGN PLANT	PRODUCT	SYSTEM LAYOUT/DESIGN
DESIGN PLANT	PRODUCT	TIME/COST ESTIMATES
DETERMINE ENGINEERING	BASIS	OWNER REQUIREMENTS
APPROACH		
DETERMINE ENGINEERING	BASIS	SITE INFORMATION
APPROACH		

Activity Class	Involvement Class	Class Object
DETERMINE ENGINEERING	CONTROLLER	CODES
APPROACH		
DETERMINE ENGINEERING	CONTROLLER	CORPORATE STANDARDS
APPROACH		
DETERMINE ENGINEERING	CONTROLLER	DESIGN BASIS
APPROACH	PRODUCE.	ENGINEEDING DEGICN CED A FEGY
DETERMINE ENGINEERING	PRODUCT	ENGINEERING DESIGN STRATEGY
APPROACH DETERMINE STATUS OF EXISTING	BASIS	CITE INCODMATION
PLANT	BASIS	SITE INFORMATION
DETERMINE STATUS OF EXISTING	CONTROLLER	CODES
PLANT	CONTROLLER	CODES
DETERMINE STATUS OF EXISTING	CONTROLLER	CORPORATE STANDARDS
PLANT	CONTROLLEN	
DETERMINE STATUS OF EXISTING	CONTROLLER	DESIGN BASIS
PLANT		
DETERMINE STATUS OF EXISTING	CONTROLLER	ENGINEERING PHILOSOPHY
PLANT		
DETERMINE STATUS OF EXISTING	CONTROLLER	STANDARD
PLANT		
DETERMINE STATUS OF EXISTING	PRODUCT	AVAILABILITY REQUIREMENTS
PLANT	D 4 GIG	ONATED DECLUDENCE TENTO
ESTABLISH PLANT DESIGN BASIS	BASIS	OWNER REQUIREMENTS
ESTABLISH PLANT DESIGN BASIS	BASIS	RESOURCES
ESTABLISH PLANT DESIGN BASIS ESTABLISH PLANT DESIGN BASIS	BASIS CONTROLLER	SITE INFORMATION PROJECT SPECIFIC
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY AGREEMENTS
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY REQUIREMENTS
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CHANGE REQUEST
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CODES
ESTABLISH PLANT DESIGN BASIS	PRODUCT	DESIGN BASIS
IDENTIFY MATERIALS OF	BASIS	PROCESS CONTROL LOGIC

Activity Class	Involvement Class	Class Object
CONSTRUCTION ACCORD		
IDENTIFY MATERIALS OF	BASIS	PROCESS FLOW DIAGRAM (PFD)
CONSTRUCTION ACCORD		
IDENTIFY MATERIALS OF	BASIS	PROCESS STREAM DATA
CONSTRUCTION ACCORD		
IDENTIFY MATERIALS OF	BASIS	SITE INFORMATION
CONSTRUCTION ACCORD		
IDENTIFY MATERIALS OF	PRODUCT	EQUIPMENT LIST
CONSTRUCTION ACCORD		
IDENTIFY MATERIALS OF	BASIS	PROCESS CONTROL LOGIC
CONSTRUCTION FOR MA		
IDENTIFY MATERIALS OF	BASIS	SITE INFORMATION
CONSTRUCTION FOR MA		
IDENTIFY MATERIALS OF	BASIS	STREAM DATA
CONSTRUCTION FOR MA		
IDENTIFY MATERIALS OF	PRODUCT	EQUIPMENT LIST
CONSTRUCTION FOR MA		
IDENTIFY MATERIALS OF	BASIS	PROCESS CONTROL LOGIC
CONSTRUCTION FOR PR		
IDENTIFY MATERIALS OF	BASIS	PROCESS FLOW DIAGRAM (PFD)
CONSTRUCTION FOR PR		
IDENTIFY MATERIALS OF	BASIS	PROCESS STREAM DATA
CONSTRUCTION FOR PR		
IDENTIFY MATERIALS OF	BASIS	SITE INFORMATION
CONSTRUCTION FOR PR		
IDENTIFY MATERIALS OF	PRODUCT	EQUIPMENT LIST
CONSTRUCTION FOR PR	D 4 676	Process of Process Process
IDENTIFY REGULATORY	BASIS	DESIGN SAFETY PHILOSOPHY
REQUIREMENTS	nn on war	
IDENTIFY REGULATORY	PRODUCT	REGULATORY REQUIREMENTS
REQUIREMENTS	DAGIG	OWNED DEOLUDEMENTS
IDENTIFY SAFETY/REGULATORY	BASIS	OWNER REQUIREMENTS
REQUIREMENTS		

Activity Class Involvement Class Class Object IDENTIFY SAFETY/REGULATORY BASIS SITE INFORMATION REQUIREMENTS IDENTIFY SAFETY/REGULATORY CONTROLLER CODES REQUIREMENTS IDENTIFY SAFETY/REGULATORY CONTROLLER DESIGN BASIS REQUIREMENTS IDENTIFY SAFETY/REGULATORY CONTROLLER END REQUIREMENTS REQUIREMENTS IDENTIFY SAFETY/REGULATORY CONTROLLER START CONDITIONS REQUIREMENTS IDENTIFY SAFETY/REGULATORY SAFETY HAZOPS ANALYSIS PRODUCT REOUIREMENTS IDENTIFY START CONDITIONS OWNER REQUIREMENTS BASIS IDENTIFY START CONDITIONS BASIS SITE INFORMATION IDENTIFY START CONDITIONS CONTROLLER CODES IDENTIFY START CONDITIONS CONTROLLER DESIGN BASIS IDENTIFY START CONDITIONS CONTROLLER END REQUIREMENTS IDENTIFY START CONDITIONS PRODUCT START CONDITIONS AS-BUILT DOCUMENTS MANAGE PLANT CONTROLLER CONTROLLER MANAGE PLANT OPERATING PROCEDURES MANAGE PROJECT BASIS OWNER REQUIREMENTS MANAGE PROJECT BASIS REGULATORY REQUIREMENTS MANAGE PROJECT BASIS SITE INFORMATION MANAGE PROJECT BASIS STATUS MANAGE PROJECT BASIS TIME/COST ESTIMATES CONTROLLER BUSINESS DIRECTIVES MANAGE PROJECT MANAGE PROJECT CONTROLLER CORPORATE STANDARDS MANAGE PROJECT CONTROLLER LEGAL REGULATORY AND SOCIAL CONSTRAINTS MANAGE PROJECT CONTROLLER REGULATORY REQUIREMENTS MANAGE PROJECT PRODUCT DESIGN BASIS MANAGE PROJECT PRODUCT PROJECT AUTHORIZATIONS/CONTROLS MANAGE PROJECT PROJECT FINANCIAL PLAN PRODUCT

Activity Class	Involvement Class	Class Object
MANAGE PROJECT	PRODUCT	PROJECT SPECIFIC
		PROCEDURES/STANDARDS/GUIDELINES
MANAGE PROJECT	PRODUCT	REGULATORY AGREEMENTS
MANAGE PROJECT	PRODUCT	SAFETY COMPLIANCE REPORT
MANAGE PROJECT	PRODUCT	SCHEDULES
OBTAIN AGREEMENT WITH	BASIS	OWNER REQUIREMENTS
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	BASIS	REGULATORY AGREEMENTS
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	CONTROLLER	REGULATORY REQUIREMENTS
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	CONTROLLER	SCHEDULES
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	PRODUCT	CHANGE REQUEST
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	PRODUCT	REGULATORY AGREEMENTS
REGULATORY BODIES		
OBTAIN AGREEMENT WITH	PRODUCT	SAFETY COMPLIANCE REPORT
REGULATORY BODIES		
OBTAIN CODES AND STANDARDS	BASIS	OWNER REQUIREMENTS
OBTAIN CODES AND STANDARDS	CONTROLLER	CODES
OBTAIN CODES AND STANDARDS	CONTROLLER	CORPORATE STANDARDS
OBTAIN CODES AND STANDARDS	CONTROLLER	DESIGN BASIS
OBTAIN CODES AND STANDARDS	PRODUCT	CODES
OBTAIN CODES AND STANDARDS	PRODUCT	STANDARD
OPERATE AND MAINTAIN PLANT	BASIS	COMMISSIONED PLANT
OPERATE AND MAINTAIN PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE AND MAINTAIN PLANT	CONTROLLER	OPERATING PROCEDURES
OPERATE AND MAINTAIN PLANT	PRODUCT	ENGINEERING DESIGN, CONSTRUCTION,
		AND OPERATION
OPERATE AND MAINTAIN PLANT	PRODUCT	PLANT OPERATION/MAINTENANCE
		DOCUMENTATION
OPERATE AND MAINTAIN PLANT	PRODUCT	PLANT SAFETY MANAGEMENT REPORT

Activity Class	Involvement Class	Class Object
OPERATE PLANT	BASIS	CHANGE REQUEST
OPERATE PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE PLANT	CONTROLLER	OPERATING PROCEDURES
PLAN/ANALYSE PROJECT FINANCES	BASIS	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	BASIS	OWNER REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	BASIS	RESOURCES
PLAN/ANALYSE PROJECT FINANCES	BASIS	TIME/COST ESTIMATES
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	CAPITAL APPROPRIATION
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	REGULATORY REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	SCHEDULES
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	PROJECT FINANCIAL PLAN
PROCURE & CONTROL EQUIPMENT,	PROVIDER	EQUIPMENT TYPE
MATERIALS &		
PROCURE & CONTROL EQUIPMENT,	SERVICE	FACILITY CLASS
MATERIALS &		
PROCURE COMPONENTS &	BASIS	EQUIPMENT LIST
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	P AND I DIAGRAM
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	PROCESS FLOW DIAGRAM (PFD)
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	SCHEMATIC DIAGRAMS
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	SITE INFORMATION
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	SYSTEM LAYOUT/DESIGN
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	BASIS	VENDOR SUPPLIERS LIST
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	CONTROLLER	PROJECT AUTHORIZATIONS/CONTROLS
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	CONTROLLER	PROJECT FINANCIAL PLAN

Activity Class	Involvement Class	Class Object
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	CONTROLLER	PROJECT SPECIFIC
CONSTRUCT PLANT & CO		PROCEDURES/STANDARDS/GUIDELINES
PROCURE COMPONENTS &	CONTROLLER	SCHEDULES
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	AS-BUILT DOCUMENTS
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	COMMISSIONED PLANT
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	DELIVERY DATES
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	STATUS
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	TIME/COST ESTIMATES
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	VENDOR DATA
CONSTRUCT PLANT & CO		
PROCURE COMPONENTS &	PRODUCT	VENDOR INSPECTION RESULTS
CONSTRUCT PLANT & CO		
PRODUCE COMPOSITION OF	BASIS	OWNER REQUIREMENTS
PROCESS STREAMS		
PRODUCE COMPOSITION OF	BASIS	PROCESS CONTROL LOGIC
PROCESS STREAMS		
PRODUCE COMPOSITION OF	CONTROLLER	CODES
PROCESS STREAMS		
PRODUCE COMPOSITION OF	CONTROLLER	DESIGN BASIS
PROCESS STREAMS		
PRODUCE COMPOSITION OF	CONTROLLER	HEAT/MASS BALANCE
PROCESS STREAMS		
PRODUCE COMPOSITION OF	CONTROLLER	UNIT OPERATIONS
PROCESS STREAMS		
PRODUCE COMPOSITION OF	PRODUCT	STREAM DATA
PROCESS STREAMS		

Activity Class	Involvement Class	Class Object
PRODUCE COMPOSITION OF	PRODUCT	TIME/COST ESTIMATES
PROCESS STREAMS	TRODUCT	TIME, COST ESTIMITIES
PRODUCE CONCEPTUAL	BASIS	OWNER REQUIREMENTS
ENGINEERING DESIGN	Di ISIS	O WITER REQUIREMENTS
PRODUCE CONCEPTUAL	BASIS	PROCESS CONTROL LOGIC
ENGINEERING DESIGN	5.1515	THOUSEDS CONTINUE SOURCE
PRODUCE CONCEPTUAL	BASIS	PROCESS FLOW DIAGRAM (PFD)
ENGINEERING DESIGN		,
PRODUCE CONCEPTUAL	BASIS	SITE INFORMATION
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	CONTROLLER	DESIGN BASIS
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	CONTROLLER	EQUIPMENT PROCESS REQUIREMENTS
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	CONTROLLER	TIME/COST ESTIMATES
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	CHANGE REQUEST
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	EQUIPMENT LAYOUTS
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	EQUIPMENT LIST
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	EQUIPMENT SPECIFICATION
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	P AND I DIAGRAM
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	PROCESS CONTROL LOGIC
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	PROJECT SPECIFIC
ENGINEERING DESIGN		PROCEDURES/STANDARDS/GUIDELINES
PRODUCE CONCEPTUAL	PRODUCT	SCHEMATIC DIAGRAMS
ENGINEERING DESIGN		
PRODUCE CONCEPTUAL	PRODUCT	SYSTEM LAYOUT/DESIGN

Activity Class	Involvement Class	Class Object
ENGINEERING DESIGN PRODUCE CONCEPTUAL	PRODUCT	TIME/COST ESTIMATES
ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL PROCESS	BASIS	CHANGE REQUEST
DESIGN		
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	CHARACTERISTIC CLASS
PRODUCE CONCEPTUAL PROCESS	BASIS	OWNER REQUIREMENTS
DESIGN	Briblio	O WILL REQUIREMENTS
PRODUCE CONCEPTUAL PROCESS	BASIS	SITE INFORMATION
DESIGN	COMEDOLIED	CODES
PRODUCE CONCEPTUAL PROCESS DESIGN	CONTROLLER	CODES
PRODUCE CONCEPTUAL PROCESS	CONTROLLER	DESIGN BASIS
DESIGN		
PRODUCE CONCEPTUAL PROCESS	PRODUCT	EQUIPMENT PROCESS REQUIREMENTS
DESIGN PRODUCE CONCEPTUAL PROCESS	PRODUCT	PROCESS CONTROL LOGIC
DESIGN	TRODUCT	TROCESS CONTROL EGGIC
PRODUCE CONCEPTUAL PROCESS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
DESIGN	DD OD LIGHT	GAPETNIA ZODGANIA NOG
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	SAFETY HAZOPS ANALYSIS
PRODUCE CONCEPTUAL PROCESS	PRODUCT	TIME/COST ESTIMATES
DESIGN		
PRODUCE CONCEPTUAL SAFETY	BASIS	SITE INFORMATION
ENGINEERING DES PRODUCE CONCEPTUAL SAFETY	CONTROLLER	ENGINEERING DESIGN STRATEGY
ENGINEERING DES	CONTROLLER	ENGINEERING DESIGN STRATEGT
PRODUCE CONTROL SYSTEM	BASIS	PROCESS CONTROL LOGIC
ARCHITECTURE		
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	PROCESS FLOW DIAGRAM (PFD)
AKCHITECTUKE		

Activity Class PRODUCE CONTROL SYSTEM ARCHITECTURE	Involvement Class BASIS	Class Object PROCESS STREAM DATA
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	SYSTEM SPECIFICATIONS
PRODUCE CONTROL SYSTEM ARCHITECTURE	CONTROLLER	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE CONTROL SYSTEM ARCHITECTURE	CONTROLLER	EQUIPMENT LIST
PRODUCE CONTROL SYSTEM ARCHITECTURE	PRODUCT	SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM SPECIFICATIONS
PRODUCE COST AND TIME ESTIMATES	BASIS	WEIGHT AND VOLUME ESTIMATES
PRODUCE COST AND TIME ESTIMATES	CONTROLLER	EQUIPMENT SPECIFICATION
PRODUCE COST AND TIME ESTIMATES	PRODUCT	COST AND TIME ESTIMATES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LIST
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING	BASIS	PROCESS CONTROL LOGIC

Activity Class	Involvement Class	Class Object
DESIGN PRODUCE DETAILED ENGINEERING	BASIS	PROCESS FLOW DIAGRAM (PFD)
DESIGN PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SITE INFORMATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED ENGINEERING DESIGN	CONTROLLER	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT LIST
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	REGULATORY AUTHORIZATIONS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SAFETY COMPLIANCE REPORT
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SYSTEM LAYOUT/DESIGN

Activity Class PRODUCE DETAILED ENGINEERING	Involvement Class	Class Object TIME/COST ESTIMATES
DESIGN	TRODUCT	TIME/COST ESTIMATES
PRODUCE DETAILED PROCESS	BASIS	CHANGE REQUEST
DESIGN		-
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED PROCESS	BASIS	EQUIPMENT LIST
DESIGN		
PRODUCE DETAILED PROCESS	BASIS	EQUIPMENT PROCESS REQUIREMENTS
DESIGN		
PRODUCE DETAILED PROCESS	BASIS	EQUIPMENT SPECIFICATION
DESIGN PRODUCE DETAILED PROCESS	BASIS	OWNER REQUIREMENTS
DESIGN	DASIS	OWNER REQUIREMENTS
PRODUCE DETAILED PROCESS	BASIS	P AND I DIAGRAM
DESIGN	D. ISIS	1 The Difficient
PRODUCE DETAILED PROCESS	BASIS	PROCESS CONTROL LOGIC
DESIGN		
PRODUCE DETAILED PROCESS	BASIS	PROCESS FLOW DIAGRAM (PFD)
DESIGN		
PRODUCE DETAILED PROCESS	BASIS	SITE INFORMATION
DESIGN	D. A. G. T. G.	
PRODUCE DETAILED PROCESS DESIGN	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED PROCESS	CONTROLLER	DESIGN BASIS
DESIGN	CONTROLLER	DESIGN DASIS
PRODUCE DETAILED PROCESS	CONTROLLER	SAFETY HAZOPS ANALYSIS
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	CHANGE REQUEST
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	ENVIRONMENTAL IMPACT ASSESSMENT
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	EQUIPMENT SPECIFICATION

Activity Class	Involvement Class	Class Object
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	LINE SCHEDULE/LIST
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	OPERATING PROCEDURES
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	P AND I DIAGRAM
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	SAFETY HAZOPS ANALYSIS
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	STREAM DATA
DESIGN		
PRODUCE DETAILED PROCESS	PRODUCT	TIME/COST ESTIMATES
DESIGN		
PRODUCE HEAT AND MASS	BASIS	CHARACTERISTIC CLASS
BALANCE		
PRODUCE HEAT AND MASS	BASIS	OWNER REQUIREMENTS
BALANCE		
PRODUCE HEAT AND MASS	BASIS	STREAM DATA
BALANCE		
PRODUCE HEAT AND MASS	CONTROLLER	CODES
BALANCE		
PRODUCE HEAT AND MASS	CONTROLLER	DESIGN BASIS
BALANCE		
PRODUCE HEAT AND MASS	CONTROLLER	UNIT OPERATIONS
BALANCE	DD ODLIGE	HEATALICE DALLANCE
PRODUCE HEAT AND MASS	PRODUCT	HEAT/MASS BALANCE
BALANCE	D + GIG	EQUID (EXELUCE
PRODUCE MAJOR CONTROL	BASIS	EQUIPMENT LIST
SYSTEM DESIGN PHILO	D + GIG	PROGESS SONEROL LOGIS
PRODUCE MAJOR CONTROL	BASIS	PROCESS CONTROL LOGIC
SYSTEM DESIGN PHILO	D A GIG	DDOCEGG GEDEAM DATA
PRODUCE MAJOR CONTROL	BASIS	PROCESS STREAM DATA
SYSTEM DESIGN PHILO		

Activity Class	Involvement Class	Class Object
PRODUCE MAJOR CONTROL	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
SYSTEM DESIGN PHILO		
PRODUCE MAJOR ELECTRICAL	BASIS	EQUIPMENT LIST
EQUIPMENT DESIGN		
PRODUCE MAJOR ELECTRICAL	BASIS	PROCESS CONTROL LOGIC
EQUIPMENT DESIGN		
PRODUCE MAJOR ELECTRICAL	BASIS	PROCESS FLOW DIAGRAM (PFD)
EQUIPMENT DESIGN		, ,
PRODUCE MAJOR ELECTRICAL	BASIS	PROCESS STREAM DATA
EQUIPMENT DESIGN		
PRODUCE MAJOR ELECTRICAL	BASIS	SITE INFORMATION
EQUIPMENT DESIGN		
PRODUCE MAJOR ELECTRICAL	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
EQUIPMENT DESIGN		
PRODUCE MAJOR MECHANICAL	BASIS	EQUIPMENT LIST
EQUIPMENT DESIGN		
PRODUCE MAJOR MECHANICAL	BASIS	PROCESS CONTROL LOGIC
EQUIPMENT DESIGN		
PRODUCE MAJOR MECHANICAL	BASIS	PROCESS FLOW DIAGRAM (PFD)
EQUIPMENT DESIGN		
PRODUCE MAJOR MECHANICAL	BASIS	STREAM DATA
EQUIPMENT DESIGN	DD ODVIGE	
PRODUCE MAJOR MECHANICAL	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
EQUIPMENT DESIGN	D + GIG	EQUIDATE DEGLOVE DUM OGODUM
PRODUCE PRELIMINARY CONTROL	BASIS	EQUIPMENT DESIGN PHILOSOPHY
SYSTEM SPECIF	D + GIG	EQUIDMENT LIGH
PRODUCE PRELIMINARY CONTROL	BASIS	EQUIPMENT LIST
SYSTEM SPECIF PRODUCE PRELIMINARY CONTROL	BASIS	PROCESS CONTROL LOGIC
	BASIS	PROCESS CONTROL LOGIC
SYSTEM SPECIF	BASIS	DDOCECC ELOW DIA CDAM (DED)
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF	DASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE PRELIMINARY CONTROL	BASIS	PROCESS STREAM DATA
PRODUCE PRELIMINARY CONTROL	DASIS	PROCESS STREAM DATA

Activity Class	Involvement Class	Class Object
SYSTEM SPECIF		
PRODUCE PRELIMINARY CONTROL	PRODUCT	SYSTEM SPECIFICATIONS
SYSTEM SPECIF		
PRODUCE PRELIMINARY	BASIS	EQUIPMENT DESIGN PHILOSOPHY
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS CONTROL LOGIC
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS FLOW DIAGRAM (PFD)
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS STREAM DATA
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	CONTROLLER	EQUIPMENT LIST
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	PRODUCT	EQUIPMENT SPECIFICATION
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	EQUIPMENT DESIGN PHILOSOPHY
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	PROCESS CONTROL LOGIC
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	PROCESS FLOW DIAGRAM (PFD)
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	STREAM DATA
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	CONTROLLER	EQUIPMENT LIST
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	PRODUCT	EQUIPMENT SPECIFICATION
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY WEIGHT	BASIS	EQUIPMENT SPECIFICATION
AND VOLUME EST		
PRODUCE PRELIMINARY WEIGHT	BASIS	SITE INFORMATION
AND VOLUME EST		
PRODUCE PRELIMINARY WEIGHT	BASIS	SYSTEM LAYOUT/DESIGN
AND VOLUME EST		

	ss Object
PRODUCE PRELIMINARY WEIGHT CONTROLLER EQU AND VOLUME EST	JIPMENT DESIGN PHILOSOPHY
	TEM SPECIFICATIONS
AND VOLUME EST PRODUCE PRELIMINARY WEIGHT PRODUCT PREI	LIMINARY WEIGHT AND VOLUME
	IMATES
PRODUCE PRELIMINARY WEIGHT PRODUCT WEIGHT AND VOLUME EST	GHT AND VOLUME ESTIMATES
PRODUCE PROCESS FLOW BASIS SITE	E INFORMATION
DIAGRAMS PRODUCE PROCESS FLOW CONTROLLER COD	DEC
DIAGRAMS CONTROLLER COL)ES
	IGN BASIS
DIAGRAMS PRODUCE PROCESS FLOW CONTROLLER PRO	CESS CONTROL LOGIC
DIAGRAMS	
PRODUCE PROCESS FLOW CONTROLLER UNIT DIAGRAMS	T OPERATIONS
PRODUCE PROCESS FLOW PRODUCT PRO	CESS FLOW DIAGRAM (PFD)
DIAGRAMS PRODUCE SITE SURVEY AND SOIL BASIS SITE	E INFORMATION
INVESTIGATIO SOIL BASIS SITE	EINFORMATION
	NCEPTUAL SAFETY ENGINEERING
	IGN DESIGN STRA NTAINMENT PHILOSOPHY
ASSESSMENT	
PRODUCE TECHNICAL RISKS CONTROLLER DES. ASSESSMENT	SIGN SAFETY PHILOSOPHY
PRODUCE TECHNICAL RISKS CONTROLLER REG	GULATORY REQUIREMENTS
ASSESSMENT PRODUCE TECHNICAL RISKS PRODUCT TEC	CHNICAL RISK ASSESSMENT
ASSESSMENT TRODUCT TEC	THE TE RISK ASSESSIVIEW
PROVIDE RESOURCES BASIS RESO	OURCES

Involvement Class Activity Class Class Object

CONTROLLER PROVIDE RESOURCES AUTHORIZATION PLAN

PROVIDE RESOURCES CONTROLLER REGULATORY REQUIREMENTS PROVIDE RESOURCES PRODUCT CAPITAL APPROPRIATION

PROVIDE RESOURCES **PRODUCT** RESOURCES

REVIEW PROCESS DESIGN PROCESS FLOW DIAGRAM (PFD) BASIS

REVIEW PROCESS DESIGN BASIS STREAM DATA

REVIEW PROCESS DESIGN CONTROLLER CODES

REVIEW PROCESS DESIGN CONTROLLER STANDARD

REVIEW PROCESS DESIGN PRODUCT ENGINEERING PHILOSOPHY STORE MATERIAL STORABLE DOCUMENT TYPE

STORE MATERIAL STORABLE **ENERGY TYPE**

STORE MATERIAL STORABLE STREAM SUBSTANCE STORE MATERIAL STORABLE

STORE MATERIAL STORAGE FACILITY CLASS TRANSFER AN ITEM PERFORMER FACILITY CLASS TRANSFER AN ITEM TRANSFER FROM FACILITY CLASS TRANSFER AN ITEM TRANSFER TO FACILITY CLASS

TRANSFER AN ITEM TRANSFERABLE DOCUMENT TYPE TRANSFERABLE TRANSFER AN ITEM ENERGY TYPE

TRANSFER AN ITEM TRANSFERABLE EQUIPMENT TYPE

TRANSFER AN ITEM TRANSFERABLE STREAM

TRANSFORM MATERIAL BASIS SUBSTANCE PERFORMER

FACILITY CLASS TRANSFORM MATERIAL

TRANSFORM MATERIAL. PERFORMER GRAVITY SEPARATION

TRANSFORM MATERIAL. PRODUCT SUBSTANCE